



DBS News®

Including SMATV, Private TVROs and Related Satellite Video

October 1987
Washington, D.C.
Vol. 6, No. 10

Phillips Publishing, Inc.
Actionable Information for the 80's®

Dear Executive:

THIRTY YEARS OF SATELLITE TECHNOLOGY STARTED WITH SPUTNIK

Earlier this month the world observed the thirtieth anniversary of the launch of Sputnik 1. That event has been described variously as having shocked America out of a lethargy engendered by supposed world dominance and into a frantic effort to upgrade science and mathematics education in the nation's school systems to a carefree response of "Sputnik? So what-nik?"

Before the United States was able to orbit its own satellite, the Soviets scored another triumph with the Nov. 2, 1957 launch of Sputnik 2 with its live passenger, the dog Laika. America finally succeeded in boosting Explorer 1 into orbit atop a Jupiter-C rocket on Jan. 31, 1958, a feat which followed the highly visible launch-pad explosion of a Vanguard launcher 2 months previously.

Since the launch of Sputnik, the satellite communications industry has branched out in many directions. One of the most exciting, if yet unachieved, is the use of high-powered, Ku-band satellites to deliver direct-to-home services. The DBS industry began with a lot of promise some years ago and then faltered. Many have predicted its demise. However, developments in the last few months, in the United States, Europe and Japan, indicate that the exciting promise of DBS may still be fulfilled.

HUGHES COMMUNICATIONS LOOKING TO FORM DIRECT BROADCAST SATELLITE CONSORTIUM

Hughes Communications is discussing the creation of a consortium to launch and operate an \$800 million direct broadcast satellite system for the provision of satellite-delivered services direct to the home. John Koehler, president and chief executive officer of Hughes Communications, told DBS NEWS that the company is engaged in "promising" talks with a number of potential partners. However, other details of the Hughes plan were left sketchy.

"Precise details of the technical solution are still being worked out," Koehler said. "There's a lot of flexibility in what we can achieve; the challenge now is to make the right [business] decisions."

The plan Koehler outlined is the provision of high-power, Ku-band direct to home satellite services. He confirmed that a candidate for the satellite(s) would be the new HS 601 3-axis stabilized Hughes bus. "We see this as a very different business from delivering [signals] to cable," Koehler said. However, he added, "We intend to be friendly to everybody."

The recent introduction of DBS service in Japan, offering just a single unique channel, supplied some of the impetus for resurrecting an idea first advanced some years ago by companies such as Comsat's defunct Satellite Television Corp. and considered by many to be long dead.

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DBS pioneer Michael Alpert, formerly the executive vice president of STC, told us "the timing is right; the DBS business concept is starting to heat up."

Alpert said that what's really needed "is for one major company to announce to the world that its willing to invest the hundreds of millions of dollars necessary; somebody has to take the lead and that somebody has to either be the satellite operator or the programmer."

While Koehler was unwilling to speculate on just how much or what Hughes is willing to invest in its DBS plan, the company certainly is well positioned to take the lead in advancing DBS services in the United States. Koehler has long been at the forefront of the high-power DBS advocates, and this move by Hughes comes at a time when the satellite manufacturers and operators are seeking new avenues of business.

In other news, the acquisition of M/A-Com Telecommunications Inc. by Hughes Electronics Corp. was finalized on Oct. 1. Hughes Electronics president Don Atwood, in a statement, said, "The one-stop concept for satellite communications will provide corporations with a complete communications capability--from satellite in orbit to earth station installation, network management and on-site servicing."



EUROPEAN DBS TO START SOON: SURPLUS CAPACITY PREDICTED

Direct broadcasting by satellite will soon take shape in Europe, emerging from long-awaited projects which have been delayed by both political and financial problems, as well as by the lack of launchers.

No less than 6 DBS systems providing about 50 television channels should enter service in Western Europe in the coming 3-year period. Most European DBS systems will compete against each other while offering a total capacity far exceeding demand from European television viewers already saturated by programming via ground links, cable networks and communications satellites.

So far, nearly 30 television programs already are distributed by low-power communications satellites throughout Europe, making unexpected business for Intelsat, Eutelsat and even Telecom 1 satellites designed more for voice and data than for television.

The challenge for all European DBS systems will be to provide attractive programs to lure television viewers that also will have to pay for additional DBS receiving equipment (of which the unit cost will only decrease if mass production is achieved). Catching a large audience is necessary to generate advertising revenues to cover the huge costs of setting up a DBS system and



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DBS News (ISSN 0733-9739) is published monthly by Phillips Publishing, Inc., 7811 Montrose Road, Potomac, MD 20854. Phone: 301/340-2100. Telex: 358149.

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provide a reasonable profit. This hurdle faces each and every European DBS operator.

The beginning of 1988 will see the launch of the first European DBS which will operate in the broadcasting satellite service (BSS) frequency band of 11.7-12.2 GHz allocated in 1977 by the International Telecommunication Union.

Two kinds of DBS systems and operators are coming: heavy satellites with high-power and a low number of channels operated by public or semi-public entities on a national basis, and smaller satellites with lower power and a high number of channels exploited by private companies or consortiums on a regional basis. In Europe, the main difference between high- and low-power DBS results from date of birth. The heavier, high-power DBS satellites were "born" 10 or more years ago when the proposed DBS technique required a high radiated power (typically using 230-250 watt transponders) to be received on the ground by small, low-cost home earth stations of less than one meter in diameter. Over the past decade, however, new techniques and various advances in satellite communications technology now allows the same job to be done with considerably less power (100 watt transponders working with dishes of under 2 feet in diameter). Despite this purely artificial difference between future DBS operators, both kinds will in fact compete for the exact same market: the 120 million television households in Western Europe.

...FOUR SYSTEMS TO LEAD THE WAY

If all goes according to plan, Germany, France, Luxembourg and Scandinavia will get their first DBS systems up in the coming year. All these European-built systems are slated for launch on the Ariane from Kourou, French Guiana. British and Irish systems, to be built and launched by U.S. companies, will follow in the 1989-91 timeframe.

The German, French and Swedish DBS satellites were built by Eurosatellite, a consortium made up of Aerospatiale and Alcatel Espace of France, MBB and AEG of Germany and ETCA of Belgium. The consortium was formed in 1977 when Paris and Bonn decided to jointly develop their DBS systems using common hardware, platforms and payloads, and to share the development costs while satisfying their quite similar requirements. The deal was made as a follow-on to the successful cooperation of the 1960s when the 2 countries developed Symphonie experimental communications satellites which paved the way for 3-axis stabilized platforms.

Eurosatellite's DBS satellites built for Germany, France and Sweden are all based on the 3-axis, heavy platform dubbed Spacebus 300. (This is the same platform that currently is being proposed for the Intelsat 7 satellite procurement.) The Spacebus 300 platform weighs about 2 tons and is equipped with a 3.1 kilowatt (Kw) deployable solar generator and designed for a 7-9 year lifetime. It accommodates a set of 5 high-power (230 watts) transponders manufactured either by AEG or Thomson-CSF of France. On the French and German satellites, only 4 transponders are exclusively dedicated to DBS, using the new D2 Paquet standard.

On the Swedish spacecraft, Tele-X, slated for Ariane launch in November 1988, only 2 channels will be used for DBS; other capacity is to demonstrate business services. All the satellites have a maximum radiated power of 63-65 dBw over Central Europe. They are the most powerful operational DBS satellites ever built. But they rely on 10-year old technology. These DBS pioneers also were victims of the hiatus in Ariane launches and political controversy. Planned for launch in late 1983, they will reach space nearly 5 years later.

Germany will soon inaugurate the European DBS era with the launch of the first DBS satellite, TV-Sat 1, planned for Nov. 17 according to the most recent Ariane manifest. The second TV-Sat spacecraft is planned for launch in February 1990 by Ariane; the Bundespost also will make a reservation on a Titan 3 booster as a backup to Ariane.

The long-debated use of the 4-channel TV-sat satellites recently was solved when the Bundespost dropped its plan to use one transponder for broadcasting 16 hi-fi radio channels, while at the same time most of the German states agreed to participate in the DBS service.

As in Germany, the future of French DBS has been clouded by political issues. The 2-satellite French TDF system is slated for Ariane launch in April 1988 and September 1989. However, because changing administrations in France have used the DBS system as a political football, its operational future is far from certain. At one point in 1986 the available transponders had been assigned to programmers by President Mitterand. With the arrival of the socialist government of Jacques Chirac, these contracts were voided. Now, with just 6 months left before the first launch, the game is wide open again for programming bids.

Luxembourg's Astra satellite, scheduled for launch in September 1988 by Ariane, is perhaps the most challenging DBS venture in Europe today. The venture, Societe Europeene des Satellites, is a Luxembourg company incorporated by 13 European shareholders from the banking and finance communities. Thus, Astra is the first privately-financed DBS system authorized in Europe and also the only one offering 16 channels for satellite direct broadcasting.

Astra is being built by GE/RCA using the Satcom 4000 platform fitted with 22 low-power (45 watt) transponders of which 16 will be operated over the whole of Western Europe, virtually the same coverage as the French and German systems. SES this month received a "favorable" coordination finding from Intelsat (having earlier received similar approval from Eutelsat) for the Astra system. In May 1987 British Telecom International signed a joint marketing agreement with SES for channels on Astra to meet the demands of television programmers broadcasting from the United Kingdom.

British and Irish DBS lags behind its European counterparts and competitors while both are following quite the same approach as SES. Both the U.K. and Irish governments made it clear that, unlike the French and German DBS systems, no public subsidy will be made available for building up the English-speaking DBS projects.

The original government-sponsored U.K. DBS project failed to emerge from start-up limbo. The Unisat project using a British-built platform was the government-preferred option, but the various British broadcasting corporations felt the business risk was too great to proceed. After the government reexamined its DBS-related goals, it expanded the concept to include foreign bids on spacecraft manufacture and reduced other barriers to market entry. This resulted last December in the selection of British Satellite Broadcasting to receive a 15-year franchise to operate a national, 2-satellite DBS system. In July Hughes received a \$300 million contract to construct the satellites based on its best-selling HS 376 spinning platform, each satellite being designed to carry 3 110-watt transponders to be used with low-cost receivers.

The Irish DBS project also is in its infancy. Some time ago Hughes Communications joined up with Irish businessman James Stafford to form Atlantic Satellites. The joint venture (owned 80% by Hughes, 20% by Stafford) plans to procure 2 huge HS 393 satellites, each equipped with 5 100-watt high-power channels for DBS and 24 low-power transponders for transatlantic communications and television delivery to cable networks. Initially planned for launch in late 1988, the first Irish DBS has been pushed back to 1991.

Italy also is willing to enter the DBS business, using limited capacity on the European Space Agency's experimental Olympus 1 satellite planned for launch in January 1989. Olympus 1 will be the largest 3-axis stabilized satellite ever built and will carry among various communications payloads 2 high-power (230 watt) DBS transponders--one for Italy and the other covering most of Western Europe.

The Italian channel will be operated by Italy's RAI, which hopes in the future to proceed with a dedicated DBS system dubbed Sarit. The system as

currently envisioned would use a bus similar to that of Olympus 1 or the Italsat frame. However, as yet no funds have been made available for Sarit.

The second Olympus 1 DBS channel will be operated by the European Broadcasting Union which has delegated its interest to Europa TV, a joint venture formed by a group of European public broadcasters. It will be the first true pan-European DBS service operated.

Several European countries are intrigued by the idea of sharing capacity on a large pan-European operational DBS satellite in the future. Eutelsat already is studying such a concept, called Europasat, which could provide 12-20 television channels over Europe at a channel cost which should be lower than the present costs by a significant margin.

ARIANE LAUNCH SUCCESSFUL: COMPANY WILL BUILD 40-50 ARIANE 4 BOOSTERS

The Europeans returned to commercial launch operations last month after a break of 16 months with the successful launch of an Ariane 3 carrying 2 communications satellites from Kourou, French Guiana. The 19th launch followed a number of delays related to problems with and extensive testing of the booster's third-stage engines.

"The resumption of Ariane launches is of the utmost importance for all commercial satellite operators in the Western world," Arianespace Chairman and Director General Frederic d'Allest told reporters in Kourou after the launch. DBS NEWS European correspondent Pierre Langereux, reporting from Kourou, said both satellites were injected into "perfect" transfer orbits after launch. After testing, the satellites will be turned over to their operators early in November.

The liftoff was postponed briefly when an onboard sensor indicated a possible leaky fuel line. Tests later showed that the sensor itself was defective.

The satellites launched were the European Telecommunications Satellite Organization's ECS 4 and Australia's Aussat K3. ECS 4, with 14 Ku-band transponders, will be used to provide primarily video transmission services as well as some telephony. Two transponders are reserved for the provision of business telecommunications services.

The Aussat K3 satellite, owned by Aussat Pty Ltd., will provide satellite services for Australian and the southwest Pacific including New Zealand. The K3 is the first Hughes-built satellite to be launched on an Ariane booster.

A senior Martin Marietta executive told DBS NEWS that the Ariane success is good for all Western launch service operators and will have a negative impact on efforts to market the Soviet Proton launcher in the West.

Following planned launches in mid-November (the German DBS TVSat1), and in mid-December (the French Telecom 1C and GTE Spacenet's 3R), the 22nd Ariane mission will feature the first launch of the Ariane 4 booster.

"Ariane 4 will be the European workhorse for commercial launches till 1996-97, while overlapping with the beginning of Ariane 5's operational launches," d'Allest said. Arianespace already is discussing with European rocket manufacturers the procurement of 40-50 Ariane 4s in the coming decade.

INTELSAT CONTINUES MOVES TO PROCURE SPACECRAFT

Intelsat has followed up on its decision at its 73rd meeting to issue a request for proposals for the initial procurement of 2 or 3 Intelsat 7 spacecraft on a firm fixed price basis by issuing the proposal earlier this month. Options included in the RFP allow up to 9 Intelsat 7 spacecraft to be procured anytime after the contract award in October 1988.

The spacecraft are specified to be compatible with shared or dedicated Ariane and shared Titan 3 launch vehicles. The first satellites will be deployed in the Pacific Ocean region to replace Intelsat 5As at the end of their lifetimes. Each Intelsat 7 will have 26 C-band and 10 Ku-band transponders.

Proposals in response to the RFP are due at Intelsat by January 15, 1988.

A number of new consortia, such as that comprising GE Astro-Electronics, MBB and Aerospatiale have been formed to pursue the satellite manufacturing business represented by the Intelsat RFP, that of the Aussat 3 system and other anticipated satellite contract offers.

AUSTRALIA ISSUES FINAL RFP FOR AUSSAT 2 SATELLITES

Aussat PTY Ltd. issued its final request for proposals for its second generation Aussat 2 communications satellite system, to be launched in 1991-92.

The RFP calls for building 2 identical satellites with an option for a third satellite to be constructed at a later date. The third satellite could be significantly different, serving as a forerunner for a planned third generation of spacecraft, Aussat Pty spokesman Sean Allan told DBS NEWS.

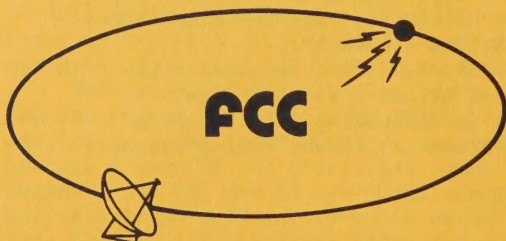
Bids for the \$500 million procurement are due before the end of the year, with contract award expected early next year. The contract covers manufacture of the spacecraft, launch and in-orbit delivery.

ESA MOVING TOWARD MOBILE COMMUNICATIONS SATCOM

Seeking to better meet the needs of land vehicles, ships and aircraft traveling throughout Europe and beyond, the European Space Agency has developed a satellite-based mobile communications system, which will be tested through 1988. Preliminary market surveys done for ESA concluded that there is "an enormous unsatisfied demand" for such services on a European scale, specifically by commercial vehicles that could use a satellite-based system with European coverage.

The initial capability of the system, named "Prodat," will be 2-way data transmission between the mobile users and base stations. Demonstrations will start in the last quarter of 1987 and run through 1988. They will involve about 30 prototype terminals onboard vehicles of road transport companies, airliners and other users. ESA said it plans to move on later to demonstration of voice communications using new technological developments currently in development, adding that all studies it has done so far suggest that satellites providing mobile communications in Europe will be "indispensable complements to all existing and planned cellular radio networks."

ESA awarded a \$413,000 contract to British Aerospace last month to begin feasibility studies under the Archimedes project on the design of mobile communications services by the mid-1990s.



FCC RECEIVES NEW DOMSAT FILINGS FOR 18 SATELLITES FROM 7 HOPEFULS

Seven companies entered the domsat fray with applications to the FCC for the launch of 15 new satellites (and 3 on-ground spares) worth about \$3 billion, with a heavy emphasis on Ku-band. The applications were filed with the commission in

September. Most of the applicants specified very small aperture terminal business communications uses for these new generations of C- and Ku-band satellites.

Apparently the single available orbital slot at 101 degrees W is in high demand; 5 companies--Contel ASC, Hughes, GE, National Exchange Inc. and AT&T--applied for it. Most of the requests are for hybrid C- and Ku-band satellites with considerably higher power and increased capacity. Other select orbital locations, including 93 degrees and 99 degrees were the targets of multiple slot requests.

A breakdown of proposals from the 7 companies includes:

Contel ASC--2 hybrids with 24 C-and 16 Ku-band transponders, Contelsats 1 and 2, and an on-ground spare, with launches to begin in 1993. Total cost: \$456 million.

AT&T--2 in-orbit hybrid Telstar 4s (24 C- and 24 Ku-band transponders) and an onground spare, replacing Telstars 301 and 302. Cost: \$489 million.

Hughes--2 satellites, 1 C- and 1 Ku-band, to fill a single hybrid orbital location at 101°, and a second Ku-band spacecraft at 89°. Total cost: \$542 million.

National Exchange--2 in-orbit hybrid satellites (and 1 on-ground spare), SpotNex 1 and 2. Total cost: \$504 million. The filing was a reapplication; the original was rejected by the FCC due to inadequate financial qualification. Since that filing, a majority of the company was acquired by Burlington Northern.

GE Americom--1 new hybrid satellite and 1 Ku-band spacecraft similar to the company's Satcom K3, for video distribution and DBS services. Cost: \$500 million.

GTE Spacenet--2 hybrids, 1 Ku-band satellite and an on-ground spare, for replacement of the company's existing Spacenets 1 and 2 and Gstar 1. Cost: \$545 million.

Alascom--one satellite to replace the aging C-band Aurora 1 satellite.

The preponderance of requests for hybrid slots should force the FCC to either create new hybrid locations or begin a complicated process of weeding out the current batch of applicants.



The Players

PANAMSAT RECEIVES FINAL LAUNCH AUTHORITY FROM FCC

Pan American satellite last week received final authority from the FCC to build, launch and operate its PanAmSat 1 satellite, "Simon Bolivar," exactly 40 months to the day after the company originally applied for such authority.

The construction of PanAmSat 1, an RCA Astro series 3000 satellite, will be completed later this year, after which it will be shipped to Ariane's launch site in French Guiana for launch in early 1988 on the first flight of the new Ariane 4 launcher.

Fred Landman, president of PanAmSat, said, "There are no further barriers to PanAmSat's launch in 1988; no further government approvals are required." President Reagan in 1984 determined that international satellite systems separate from Intelsat are required in the national interest. PanAmSat was the first private satellite system to receive approval to launch such a system.



DBS Digest

Telesat Canada sold its Anik C1 satellite to Pan Am Pacific Satellite Corp. for about \$63 million. Pan Am Pacific will use the satellite in its PacificStar regional satellite system. The sale marks the first time that ownership of an in-orbit, operational satellite has been transferred.

Telesat Canada will move the satellite from its current orbital parking spot to a new position to be specified by Pan Am Pacific Satellite. In addition, the 2 companies signed a \$10 million contract calling for Telesat Canada to operate and control the satellite until Pan Am Pacific Satellite's new satellite control center is built.

Intelsat carried the first Pan American teleconference on AIDS to 30 countries recently under the auspices of Project SHARE. Emanating from Quito, Ecuador, the teleconference linked experts on the disease through Intelsat 5 (F-4) and Intelsat 5A (F-10). Project Share (Satellites for Health and Rural Education) provides free satellite time for delivery of health and education services, particularly in developing countries, and is sponsored in part by Intelsat. (Intelsat, 3400 International Drive NW, Washington, DC 20008, 202/944-6800.)

Transponder space on GTE Spacenet Corp.'s Spacenet 1 and Gstar 2 satellites has been leased by the Entertainment and Sports Programming Network (ESPN) to transmit its live coverage of 1987-88 NFL football games. Broadcast of the games will be uplinked from an on-site truck at each game to the network's Bristol, Conn., studio, where it will be downlinked and integrated into the network production process for cable channel distribution. Spacenet 1's C-band transponder capacity will transmit the primary feed. Gstar II's Ku-band capacity will be used as a separate satellite hookup. ESPN plans to televise 8 regular season games. GTE also booked more than 1,500 hours of occasional-use video service for the 10-day visit of Pope John Paul II to the United States. (GTE Spacenet Corp., 1700 Old Meadow Road, McLean, VA 22102, 703/848-1108.)

MTV Networks, C-Span and The Weather Channel have announced that the dual feed period will end on Nov. 2 for MTV: Music Television, Nickelodeon East, Nick at Nite East, VH-1/Video Hits One, C-Span, C-Span II and The Weather Channel. At that time these services will be transmitted exclusively from transponders on Galaxy III. (MTV Networks, 212/713-6462; C-Span, 202/737-3220; The Weather Channel, 404/434-6800.)

A survey conducted by Nielsen Media Research in August showed that more than 30% of all news producers in the United States prefer satellite delivery of video news releases. Another 20% say satellite is just as attractive as mail delivery. More than 90% said satellite is the preferred method when a news release has a breaking news element. (Medialink, 708 Third Ave., New York, NY 10017, 212/682-8300.)

Following the lead of GE Astro-Space, MBB and Aerospatiale (DBS NEWS, September, pp. 3-4), a new team composed of British Aerospace, Matra of France and TRW has been formed to compete with Hughes Aircraft and the GE team for the upcoming Intelsat 7 and Aussat 2 procurements. BA will act as prime contractor in the Intelsat bid, with Matra heading the team for Aussat.

The National Rural Telecommunications Cooperative (NRTC) announced the national launch of its program package for rural dish owners, Rural TV, during a live satellite television broadcast on Oct. 1. Uplinked from Kansas City, Mo., the broadcast reviewed the program package, the test phase and the technology. (NRTC, PO Box 9994, 1115 30th St. NW, Washington, DC 20007, 202/944-2539.)

American Management Association, with the cooperation of the Public Service Satellite Consortium, is presenting Seminars by Satellite (covering a variety of professional development issues), using broadcasts via satellite and 1-way and 2-way audio formats. Through satellite, the seminars can incorporate group exercises and workbook materials, as well as pre- and post-seminar exercises for attendees. The 2-way audio connection allows for questions and answers to be exchanged. Call AMA for upcoming courses and sites. (American Management Association, 135 W. 50 Street, New York, NY 10020, 212/903-8115.)

Satellite Broadcasting and Communications Association general counsel Mark Ellison delivered petitions with over 1,500 signatures in support of "The Satellite Home Viewer Copyright Act of 1987" to Rep. Robert Kastenmeier, (D-Wisc.) chairman of the Copyright subcommittee. The act was introduced to clarify dish owners' rights to receive both the superstation and network signals. Immediately following the presentation, Kastenmeier announced that he will hold hearings on the bill in late October or early November. In other news, the SBCA, in cooperation with the Satellite Training and Education Network, will present a 2-day symposium on very small aperture terminal technology at the Sheraton Denver Tech Center, featuring a distinguished list of speakers representing all aspects of the industry. The sessions will be available via satellite in a number of cities nationwide. Call SBCA for details. (SBCA, 300 North Washington St., Suite 208, Alexandria, VA 22314, 703/549-6990.)

Netlink USA has begun addressable scrambling of its 6 Denver channels on Satcom 1R. Fully scrambled channels and their respective transponder assignments are ABC (KUSA) T2, NBC (KCNC) T4, CBS (KMGH) T6, PBS (KRMA) T12, KDVR (Independent) T20, KSPN (Independent) T24.

The Learning Channel will launch its 1987-88 satellite-delivered season with "Likely Stories," a 13-part series hosted by actress Glenn Close. Produced by TLC in association with Fireside Entertainment Corp., the series was underwritten by the John D. and Catherine T. MacArthur Foundation, with additional monies provided by the National Endowment for the Arts. Thirty-five stories are included in the series. (The Learning Channel, 1525 Wilson Blvd. Rosslyn, VA 22209, 202/331-8100.)

General Instrument's VideoCipher Division is introducing a data receiver that will allow consumers to link their home satellite TV systems and personal computers to receive subscription data, text and information services direct by satellite. One data text service, X*Press Information Services Ltd., already has made plans to offer its service using InfoCipher technology under a marketing agreement with Turner Broadcasting System's CNN and Headline News. General Instrument's suggested retail price for the InfoCipher 1500R with interface software and cables is \$349; shipments will begin in November.

With Westinghouse's decision to shut down the West Coast division of Westinghouse TVSC and SYNSTAT, Jim Tuversen, former head of that office, and his associates Doug Ivanovich and Miklos Wass de Czege have organized SkyLink Satellite Communications Inc. The company will provide complete satellite service for television and radio programming, and has offered service to former Westinghouse clients. (SkyLink Satellite Communications Inc., 5746 Sunset Blvd., Hollywood, CA 90028, 213/460-4044.)

As the result of a \$42,000 California State University grant, CSU, Chico campus, has provided satellite-receive equipment to 6 north state high schools for the reception of live and interactive televised courses. The first programming to be broadcast over the system will be a 4-part series of satellite-delivered teleconferences by CSU, Chico, aimed at geography and social science teachers. The initial program, a nationwide broadcast on November 18, will be followed by 3 geography teleconferences scheduled in early 1988. The grant was secured through the EDUNET project, the CSU system-wide satellite network. (Center for Regional and Continuing Education, California State University, Chico CA, 916/895-6105.)

NBC USES IDB COMMUNICATIONS FOR BROADCASTS FROM CHINA

NBC called upon IDB Communications Group Inc. for communications help with broadcasts of "Nightly News," "Today Show" and "Sunday Today" programs

from China last month. IDB earth stations were assembled at the production locations in Peking and Shanghai, and circuits were immediately established for data and digital voice traffic using Intelsat's Pacific Ocean spare satellite.

The data and voice circuits established by IDB allowed for 20 lines between New York and each of the remote locations in China. Previously, existing overseas long-distance services were used by networks when they were on overseas remotes, although those systems were not always able to handle the size and nature of the traffic load imposed on the system.

Along with the data and voice communications, video is simultaneously being transmitted to Intelsat's Pacific Ocean spare and a U.S. domestic satellite, then to The Teleport in New York and then on to NBC.



BROADCASTERS GIVING HDTV HIGH
PRIORITY: NAB TO FORM R&D INSTITUTE

Though lacking the splash of the January demonstration of high-definition television (DBS NEWS, January, p. 11), broadcast interests met in Washington, D.C., recently to discuss the state of the fledgling technology.

National Association of Broadcasters (NAB) President Edward Fritts also took the occasion to announce that NAB Technologies Inc., an R&D subsidiary, is setting aside \$2 million annually for the next 2 years to fund the Broadcast Technology Center. The new center "will have the sole mission, for now, to bring HDTV to reality for terrestrial broadcasters," Fritts told the audience.

Fritts' message was the centerpiece of a half-day meeting held by the Association of Maximum Service Telecasters (MST). The repeated theme was that broadcasters must begin to take a more active role in HDTV's development if it is to continue to compete with cable television, VCRs and other video technologies. "We might become the dinosaurs of the video industry," one broadcast executive groaned.

Alex Felker, newly appointed chief of the FCC's Mass Media Bureau, told the audience that the commission "is intrigued by the public interest benefits of HDTV." He referred to an FCC notice of inquiry (NOI) adopted by the commission to determine impact on advanced television systems.

While Felker said the commission is well aware of the competing uses for the spectrum, "the NOI asks how would the optimum mix of ATV [advanced television] and other communications services should be achieved."

The broadcasters filed a petition for special relief from any decision in the land mobile sharing item at the same time as the NOI petition. Felker suggested nothing would result from it. "It's fair to say that the FCC isn't going to take any action that would materially hurt its options in the advanced TV proceeding," he said. "The staff is still going through comments to decide what 'materially' means."

The NOI also promised the appointment of a "blue ribbon panel" to be composed of the highest level players in broadcasting, with a second tier of subcommittees whose membership will be open. Felker told the expectant audience that the group's charter is still being reviewed for approval by the Government Services Administration. "The panel's first meeting will be in the near future--as exact a date as I could give you right now."

How to deliver the signal also drew comment from the attending engineers; how channelization should work, whether dual channels should be developed, which standard was preferable--European or Japanese--and whether the signal should be compatible with existing over the air broadcast signals.

Space availability at antenna sites is going to be troublesome, according to Harold E. Protter, a Milwaukee-based broadcaster. "In many markets, there

is the probability that the second, or HDTV signal, could not possibly cover the entire ADI [area of dominant influence] or DMA [designated metropolitan area]. Where will the additional tower sights be located? Will the people afraid of broadcast radiation allow the amount of radiation from TV stations to multiply? And what is the cost of the 2-transmitter system? As a person responsible for the profitability of an individual television station, I ask again, what is the cost?" Protter said.

One engineer from the National Broadcasting Co. suggested transmitting HDTV signals from multiple low-power transmitters scattered around a market, similar to cellular. "That would get around the problem of finding antenna space," the NBC engineer said. "We're making a big mistake trying to get up one large antenna. On the World Trade Center, for instance, it's impossible. NBC is working on a single channel [6 MHz] approach, he added, because it makes the most economic sense.

Throwing a new light on the UHF spectrum sharing issue which has long raged between broadcasters and land mobile interests, NBC, the David Sarnoff Research Center and GE/RCA Consumer Electronics recently developed a high-definition television system that can operate within the standard 6 MHz channel bandwidth, NBC has announced.

The company said that the new system, Advanced Compatible TV, is compatible with existing channel allocations and standard TV receivers. The system has not been field tested but has been simulated on a digital video simulator. In the new system, 2 signals are broadcast; an NTSC-compatible baseband signal, and a second subcarrier signal using 3 MHz.



NATIONAL GATEWAY TELECOM OFFERING KU-BAND SATELLITE SERVICES PACKAGE

Responding to recent competitive pressures, National Gateway Telecom Inc. (NGT) has introduced a number of service packages designed to simplify customer needs. The company has not only begun offering a Ku-band based, rapidly deployable and highly mobile

2-way very small aperture terminal (a 1.2- or 1.8-meter antenna and the electronics that go with it) for government and commercial users, but also will help its customers obtain domestic or international satellite transponder capacity if such assistance is requested.

John Williamson, a public relations representative for the company, told DBS NEWS that NGT will negotiate with satellite operators for a portion of satellite time, adding that the advantage of this set-up is that NGT already knows the satellite operators, whereas some of its customers do not.

In addition to negotiating for satellite time, NGT's package includes, at the customer's request, assistance with hub installation (if a hub is involved) and customer training for equipment use, Williamson said.



SATELLITE BROADCAST NETWORKS ANNOUNCES NEW MOVES IN PRIMETIME 24 PROMOTION

Satellite Broadcasting Networks has come up with several promotional ideas for PrimeTime 24. Developing packaging strategies, providing special dealer programs and offering unscrambled previews are some of the ideas SBN has developed.

The company has made third-party packager agreements with Consumer Satellite Systems (CSS) and Satellite Source to offer PrimeTime 24 alone or in

a package with other basic and premium programming services. PrimeTime 24 will be packaged by both CSS and Satellite Source as the foundation ABC, CBS and NBC network service. Consumers also will be offered PrimeTime 24 together with other satellite services.

SBN also has launched the new PrimeTime 24 dealer program, Dealer Express. The program, developed in cooperation with dealers across the country, offers dealers showroom subscriptions. Since CBS has begun to scramble its satellite feeds, and ABC and NBC have announced similar plans, by guaranteeing that basic services will be available, PrimeTime 24 and the Dealer Express program will help the dealer sell the satellite dish. Dealer Express kits were mailed to participating dealers in mid-September.

The company's first annual free fall preview for PrimeTime 24, an unscrambled broadcast, will be available from October 18-24. PrimeTime 24 will be moving permanently to 3 new transponders on F2; WBBM is on transponder 12, effective on September 30.

SECOND FCC PROGRESS REPORT ON HOME SATELLITE DISH MARKET ISSUED

The FCC's Office of Plans and Policy this month issued its second in a series of progress reports on the home satellite dish (HSD) market. The report reaffirms the FCC's position that no government intervention in that market is necessary at this time.

In support of the continued recommendation against intervention, the second progress report notes that since May (when the first report was compiled) several channels have begun fulltime addressable scrambling, a few more have chosen to use the VideoCipher II encryption system, and some additional program packages have been announced. Furthermore, the supply of VC II decoders has increased and the shortage has eased considerably.

The report points out that piracy continues to be a problem and that the legal status of superstation sales to HSD households remains in question.

Copies of the report are available from the FCC's duplicating contractor, ITS, 2100 M Street NW, Washington, DC 20037, 202/857-3800, for \$10.

SBGA PRESIDENT SEES DBS MARKET GROW WITH DEVELOPMENT OF NEW SERVICES

The launch of more than 50 new satellite-delivered programming and data services this year means that the entertainment and educational value of home satellite reception equipment is continuing to flourish.

According to Chuck Hewitt, president of the Satellite Broadcasting and Communications Association of America (SBGA), the advent of new services underscores the growing number and wide variety of satellite transmissions made available to individuals using backyard dishes. Approximately 150 satellite channels are now available to home-dish owners. Thus, home-dish consumers not only can use their satellite dish as a learning device, but also to carry out shopping and business transactions while they enjoy the widest variety of movies and sports available in home entertainment today.

Sincerely,

The Editors

Scott Chase, Editor

Eva Feldman, Assistant Editor

Barbara H. Bink, Managing Editor

P.S. Mark your calendar now for the most important gathering of satellite business executives of 1988. SATELLITE VII: NEW MARKET OPPORTUNITIES IN SATELLITE COMMUNICATIONS AND BROADCASTING has been set for March 2-4 in Washington, DC. Register early with the enclosed advance coupon and save \$100!



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Part time/packages
Pricing
Transmission techniques, multiplexing
SCS, FM²

Transmission Services

Transportable uplinks
Transportable downlinks
ID's (ATIS)
Major Broadcasts
Part 25

Satellite News Gathering

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Direct-to-Home Satellite Broadcasting

C-band Direct
Medium Power Ku (FSS)
High Power Ku (BSS)
Europe (TVSat, TDF, Astra)
Japan

Radio, Television and Cable Networks

Backhaul-audio-video
Network Distribution-audio-video
Specialized Services
Events - i.e. fights, Pope

International Satellite Communications

Fiber Competition
NASARC
WARC 88
USA/Worldnet
Third World
Pacific
PanAmSat
Intersputnik

Teleports/Permanent Uplink Services

As a Vsat Hub
IBS services
Regional Business Development
Local interconnects

New Technologies

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Flat/DBS antennas
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Geosynchronous Platforms

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College/graduate schools
Professional Networks

Earth Station Hardware

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
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